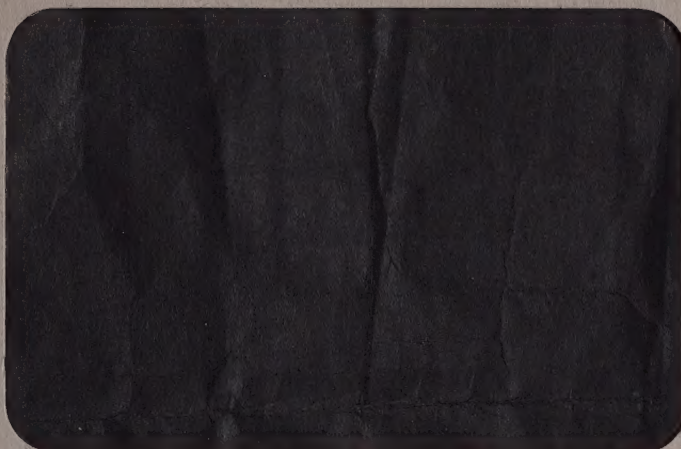




*Thermo
Electric*

*Temperature
Measuring Systems
and Components*

THERMO ELECTRIC Co., Inc., Saddle Brook, New Jersey



THERMO ELECTRIC CO., INC.
SADDLE BROOK, NEW JERSEY

OPERATION AND MAINTENANCE
MANUAL

ROTARY TYPE SELECTOR SWITCHES

PUBLICATION NUMBER RS-6001

21 JANUARY 1961

APPLICABILITY

Model 80362
Model 80363
Model 80364
Model 80365

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APPENDIX

<u>Drawing</u>	<u>Title</u>
SKF-866	Wiring Diagram, Rotary Switch, Thermocouples
SKF-950	Selector Switch, Wiring, Rotary, Resistor Bulb, 3 lead, 2 pole
SKF-823	Selector Switch Cabinet, Installation Dimensions

I. DESCRIPTION

All models of rotary selector switch cabinets manufactured by Thermo Electric Co., Inc., are enclosed in steel cases to protect from dust and moisture, and finished with smooth black enamel. These cabinets are suitable for use with thermocouples or with resistance thermometers, and are available in 6-, 12-, and 24- positions.

The switch cabinets are furnished either with binding posts mounted on bakelite strips and staggered for easy wiring, or with bunched lead wires for soldered connections. Number sequence and polarity are plainly indicated on models equipped with binding posts; models with bunched leads have numbered, color-coded leads. Standard wiring is copper, and wiring with actual thermocouple material can be furnished.

The switch cabinet measures 4-1/4" wide by 4-1/4" high by 8-3/8" deep. The rear cover of the cabinet is readily removed for inspection and cleaning of easily accessible contacts and slip rings.

The switches are double-pole rotary type, and contacts, wipers, and slip rings are made of the same silver alloy, eliminating the possibility of false voltages from thermoelectric action. The switch is a "shorting type" furnished with spring-loaded wipers sufficiently wide to contact both studs simultaneously, and thus make-before-break. The switch is equipped with a large bakelite selector knob and numbered dial for point identification.

II. PRINCIPLES OF OPERATION

Rotation of the selector knob positions the switch wipers to make contact with any circuit, and interrupts contact with the preceding circuit. Selection of positions is made in a numerical sequence from OFF to 6, OFF to 12, OFF to 24, depending on the model used. Signals from the selected point go through the switch to the single set of output terminals. Signals from the output terminals may then be directed to indicators, recorders, or other equipment. (Refer to SKF-866, or SKF-950 in appendix).

III. OPERATION

Operation of the rotary selector switches consists of rotating the selector knob until the indicator line on the knob points to the desired position. When in position, an accurate contact position index (detent) maintains the switch in the selected position, and the selected sensing element is connected to the output terminals.

IV. MAINTENANCE

Because of the simple, rugged construction of this equipment, little maintenance is required and consists of (depending on service conditions) periodically cleaning contacts and slip rings with a soft cloth, and applying a thin coating of petroleum jelly. Shaft bearings are of the type which require no attention, except occasional application of lubricant. If conditions indicate, high grade benzol may be used in cleaning. (Do not use "carbon tet")

V. INSTALLATION

Installation wiring (See Drawing SKF-866, Appendix) consists of connecting sensing element lead wires to appropriate binding posts (or switch leads) in switch cabinet. Connections should be clean and tight.

NOTE

Observe polarity when making connections.

Rotary switch cabinets are suitable for flush-panel, table, or wall-mounting. (See SKF-823, Appendix). Flush-panel mounting and wall mounting are the simplest and most convenient methods; these mounting methods are accomplished as follows:

A. Flush-panel

1. Remove selector knob by loosening set screw; carefully note position of index line on dial.
2. Remove two No. 10 mounting screws located next to shaft on dial.
3. Using dial or Thermo drawing SKF-823 as template, locate and drill one 5/15" hole in center of panel for shaft, and two 13/64" holes adjacent for mounting screws.
4. Insert switch shaft through 5/16" hole from rear of panel.
5. Replace dial on shaft. Align mounting holes and replace the two mounting screws.
6. Replace selector knob and return index line to position noted in step 1 above. Tighten set screw.

B. Wall-Mounting

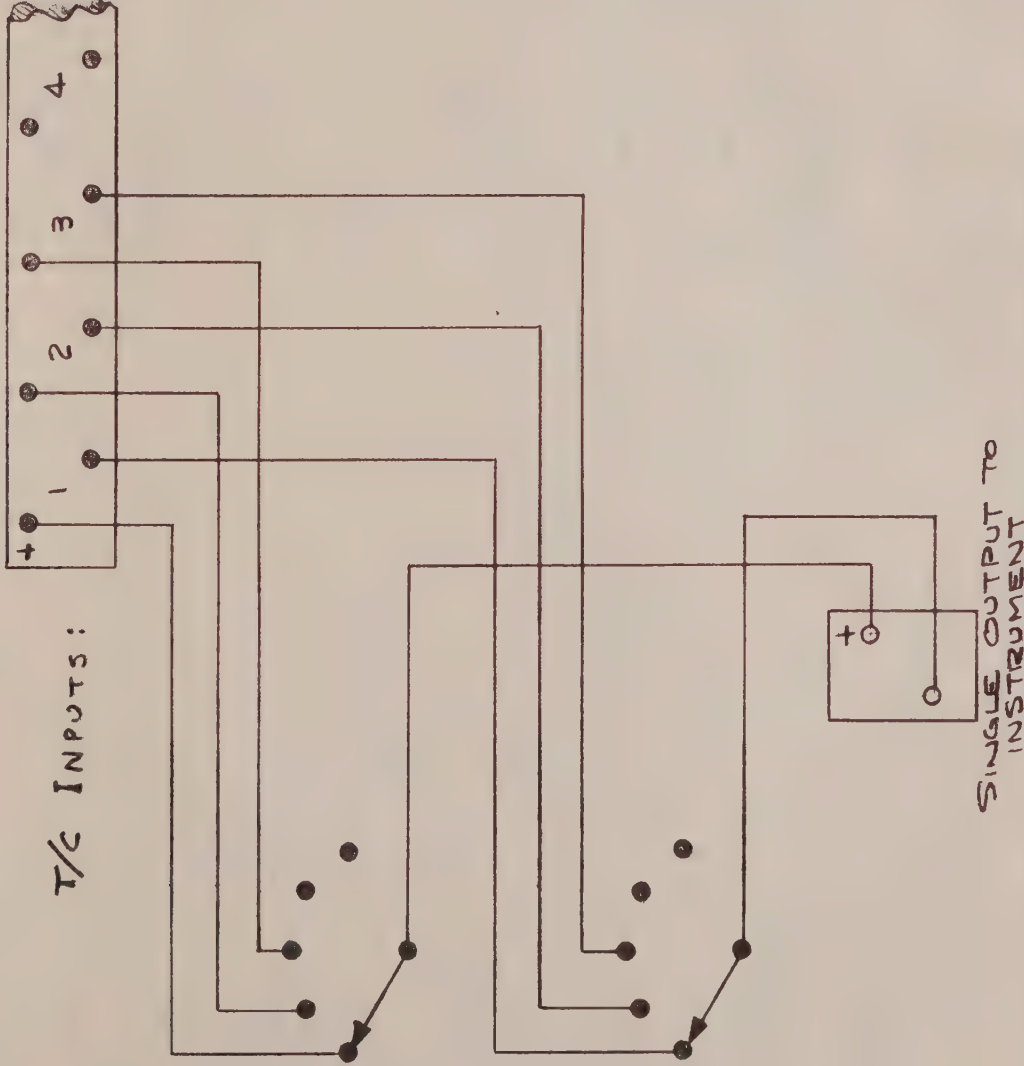
1. Remove three mounting hole knockouts in rear of case.
2. Using template, locate and drill three holes.
3. Align cabinet over drilled holes and fasten using washer, wood-screws, or 10-24 bolts and nuts shipped with the switch.

VI. RECOMMENDED SPARE PARTS

There are no recommended spare parts for these units. In case of damage requiring replacement of parts, please furnish Thermo Electric Co., Inc. with full nameplate data when ordering, or arrange for factory repair.

998
SKF

T/C INPUTS:



DO NOT SCALE THIS DRAWING

MACHINING TOLERANCES (UNLESS OTHERWISE NOTED)
ANGLE $\pm 1/2^\circ$, DECIMAL $\pm .005$, FRACTIONAL $\pm 1/64"$
REMOVE ALL BURRS. BREAK CORNERS AND EDGES
.010" MAX. UNLESS OTHERWISE NOTED.

THERMO ELECTRIC CO., INC.
SADDLE BROOK
NEW JERSEY

WIRING DIAGRAM
ROTARY SWITCH, T/C.

DATE 9-25-59

ENGR. *W. H. W.*

PROJ. ENGR.

DWN. BY

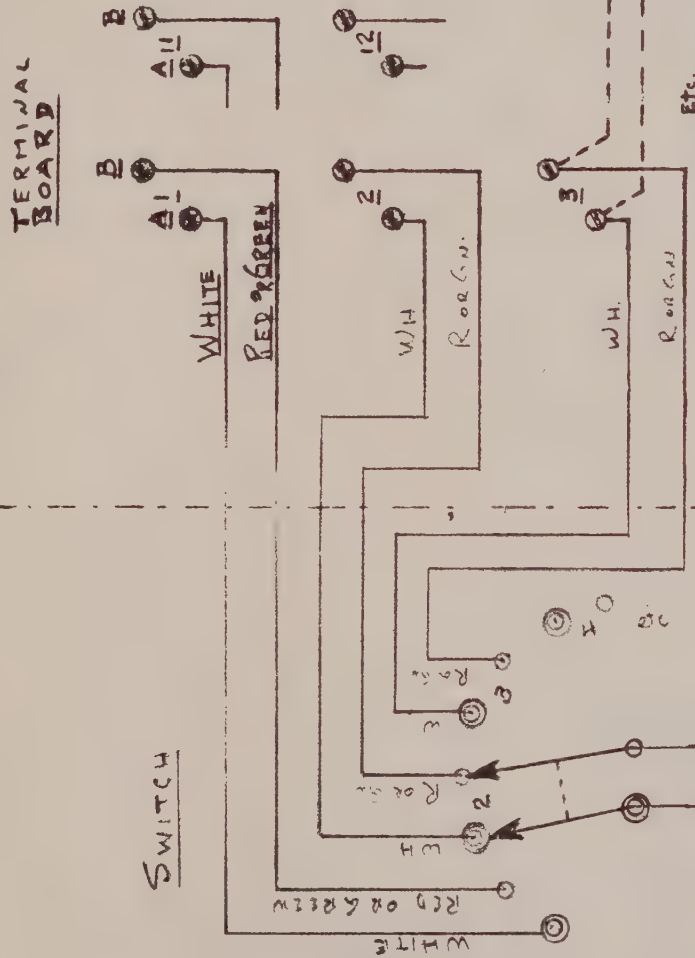
CHF. DR.

SKF 866

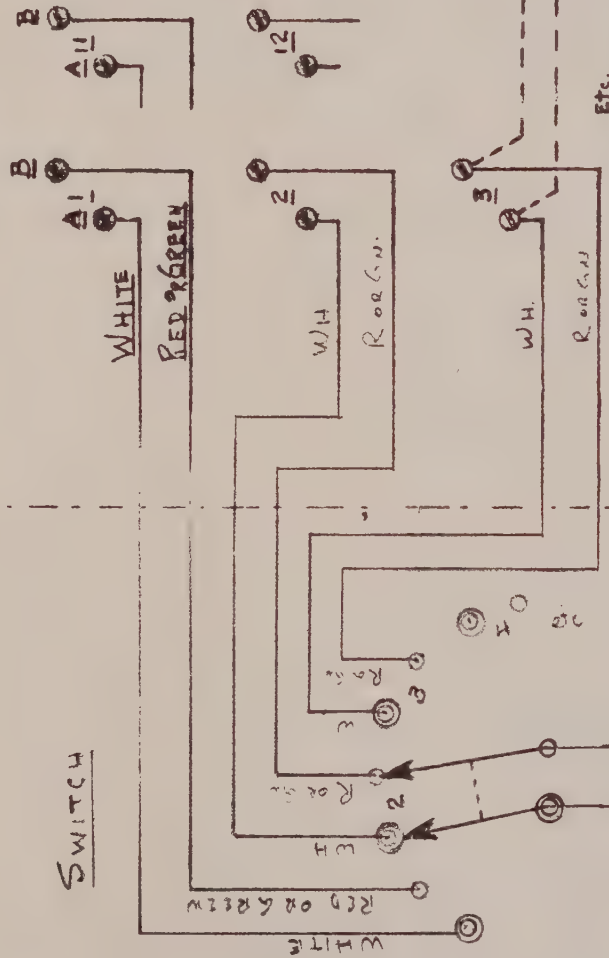
CAUTION:

2 LEADS FROM
BULB TO ARMS
OF BRIDGE
MUST BE OF
MATCHED RESISTANCE
WITHIN PERMISSIBLE
TOLERANCE FOR
SYSTEM ACCURACY
REQUIRED,
AND THEIR LENGTHS
AT LIKE AMBIENT
TEMPERATURES.

SWITCH

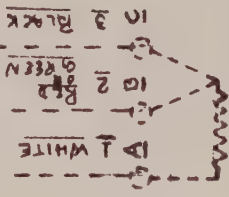
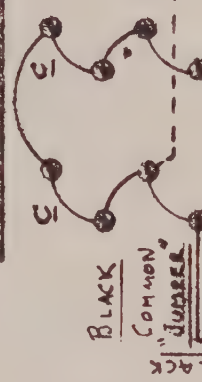


TERMINAL BOARD



NOTE: DATA AND COLOR CODE
FOR TYPICAL TRANSDUCER
"BULB" AND RESISTANCE
BRIDGE INSTRUMENT
DESIGNATION
OF LEADS
IS "A, B, C."

NOTE:
"C" TERMINAL
MAY BE
LOCATED
WITH "A" "B"
EACH CIRCUIT.



DO NOT SCALE THIS DRAWING

MACHINING TOLERANCES (UNLESS OTHERWISE NOTED)

ANGLE $\pm 1/2^\circ$, DECIMAL $\pm .005$, FRACTIONAL $\pm 1/64"$.

REMOVE ALL BURRS. BREAK CORNERS AND EDGES

.010" MAX. UNLESS OTHERWISE NOTED.

THE THERMO ELECTRIC CO., INC.

SADDLE BROOK

NEW JERSEY

SELECTOR SWITCH WIRING, ROTARY

RESISTOR BULB, 3 LEAD, 2 POLE

DATE 4/10/60

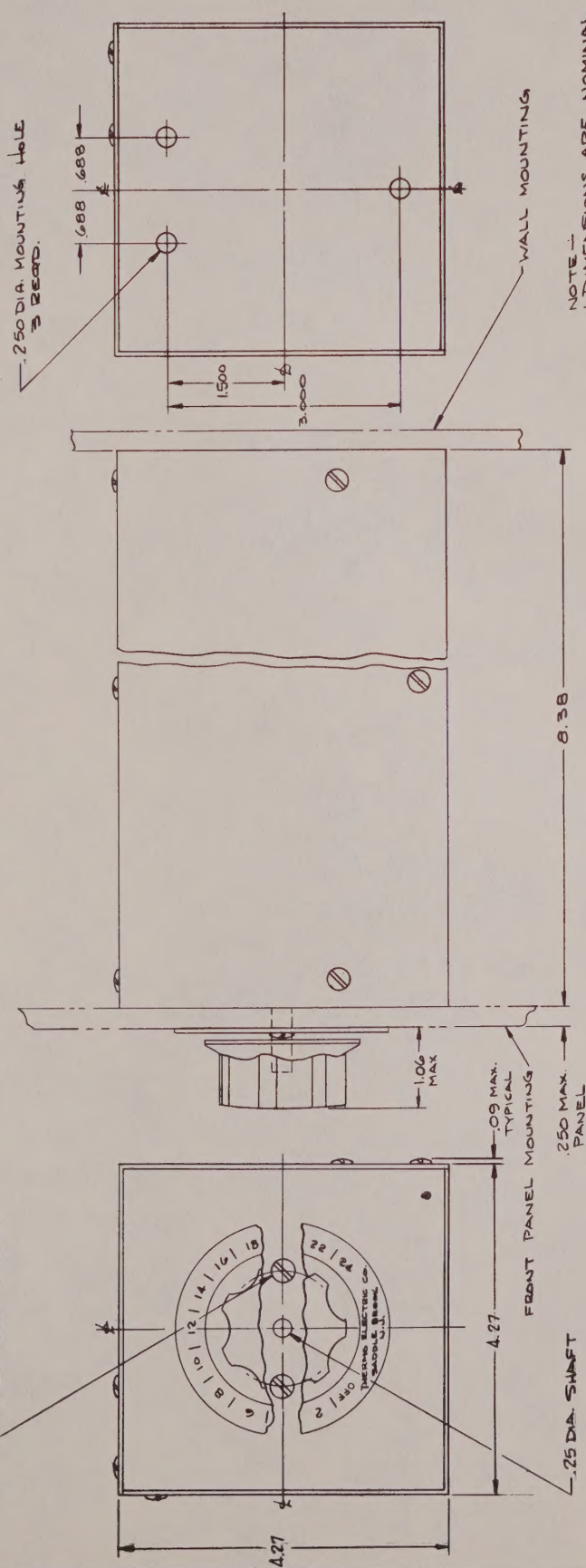
ENGR. 10/60

PROJ. ENGR.

CHF. DR.

SKF-950

N/10 MTG. SCREW (CASE TO PANEL)
 - 2 REED. LOCATED ON A
 - 1500 BOLT CIRCLE



NOTE --
 1-DIMENSIONS ARE NOMINAL
 UNLESS OTHERWISE SPECIFIED
 2-THERE ARE 2 HOLES FOR 1/2" CONDUIT
 & 1 HOLE FOR 3/4" CONDUIT LOCATED
 ON BOTTOM OF CABINET.

TERNHO ELECTRIC CO., INC.
 SADDLE BROOK, N. J.

SELECTOR SWITCH CABINET INSTALLATION	
DATE	9-28-59
CHECKED BY	BM
DRAWN BY	SKF
B23	

TOLERANCES
 FRACTIONAL
 .XX ±.010
 .XXX ±.005

FOR T.E. MODELS: 80362,
 80363, 80364 & 80365

